

**ABSTRACT OF THE DISCLOSURE**

The present invention provides chimeric nucleic acids, preferably contained on an expression vector, that encode chimeric immunogenic polypeptides. The nucleic acids encode at least site III of a lyssavirus glycoprotein, which has been found to improve the immunogenicity of lyssavirus epitopes for protection from rabies. The chimeric nucleic acids and proteins can also contain antigenic determinants for epitopes other than those of lyssavirus. Thus, the invention provides chimeric nucleic acids and polypeptides that elicit a strong immune response to multiple antigens. Use of the methods of the present invention permits DNA vaccination without the need to supply multiple antigens on separate DNA molecules.